

Lesson Study and Service Learning in Teacher Preparation

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Introduction

The aim of this paper is to share a teacher training experience that combines Lesson Study (LS) with a Service Learning (SeL) methodology.

This experience takes place as part of the subjects Early Childhood Education Didactics, Early Childhood School Organisation, and Towards Inclusive Schooling, all of which are studied in the second semester of year one of the Undergraduate Degree in Childhood Education at University of Malaga, Spain. The LS focuses on a practical task in which groups of 4 to 6 students design, develop and assess a prepared teaching and learning environment in a real context for children aged three to six. This work gives meaning to all the activities involved in the three subjects by allowing interdisciplinary theorisation of practice and experimentation of theory in a real context. The methodological choice of the environments prepared in early childhood education –understood as spaces with materials and resources designed to develop fundamental human skills in the most autonomous, affective and effective way possible– represent an alternative with great educational potential (Montessori, 2013; Malaguzzi, 2001; Hoyuelos, 2006, 2009; Wild, 2010; Bonás et al., 2007). Our aim is to invert the traditional sequence used in Spanish universities, in which theory proceeds practice, in order to demonstrate that knowledge can indeed be reconstructed from practice (Soto Gómez, Serván Núñez and Caparrós Vida, 2016a).

This innovation project is based on another way of understanding teaching and learning in schools, which, in consequence, also means a new form of understanding in universities. The aim is to start from practice, from stimulating experiences that encourage reflection from action. The main purpose is for prospective Infant Education teachers to develop the skills required by schools in the 21st century, which can only be achieved through contexts and situations that give meaning to learning. The prerequisite of these contexts is the construction of a community based on cooperative learning which is supportive, respectful of differences, and demanding in terms of personal responsibility. A community that starts with the coordinated work of the group of teachers, and covers not only the university students but also the schools themselves. In short, the intention is to create an experience in which to learn by doing, reflecting and feeling. This involves selecting contents based on relevance, depth and interdisciplinarity; a methodology based on activity and experimentation; and a teaching role based on tutoring and assessment for learning through an e-portfolio.

Let us now see each of the elements that make up the experience in a little more detail.

Competences

First, we start from Pérez Gómez's (2012) definition and selection of key competences for teachers in the 21st century, included substantially in most innovative teacher training programmes:

- 1.Design and offer scenarios for action and reflection in order to build comprehensive, meaningful interdisciplinary knowledge about a complex reality, for which we have to draw on founded critical judgements and real didactic proposals.
- 2.Learn to collaborate and communicate with all possible resources while respecting diversity and discrepancy.
- 3.Learn to know and recognise ourselves through others and, consequently, to regulate both ourselves and also our own learning (Soto Gómez, Serván Núñez and Caparrós Vida, 2016a).

We present these skills to the students as follows:



Methodology

The different methodological strategies are based on the following procedural principles (Stenhouse, 1987): start off from real experiences; place research at the heart of the process; learner activity, thus encouraging intrinsic motivation; highlight the moral and political component which is unavoidable in all educational practice; promote metacognitive strategies, group work and personalised teaching; ICT as the context; methodological plurality; create learning communities; and high expectations regarding learners.

The practical task mentioned above (prepared learning environments) is implemented through two methodological strategies: Learning and Service (LeS) and Lesson Study (LS): Learning and Service, because we offer a service to Infant Education second cycle schools (3-6 years), either by offering a learning experience that can be enjoyed at the University or by developing learning environments in the Infant Education schools themselves, and Lesson Study because it is the research strategy they use to design, develop and assess the learning environments offered as a service. Since the latter is already known to the attendees, we will now take a moment to describe the main features of LeS.

SeL: Definition

We could say that SeL is a methodological proposal that combines authentic reflective learning processes in contexts which provide a service to the

community. The aim is to improve an actual need of the community that the service is directed to, implemented through pedagogical and social practices based on reciprocity; developing skills for life; an active, reflective pedagogy; constructing a connections and support network; and developing meaningful, transformational activities which have an impact on training (Batlle, 2011, 2013; Furco and Billig, 2002; Martín et al., 2010; Puig et al., 2007; Puig and Palos, 2006; Tapia, 2001).

LeS therefore integrates community service and relevant learning into a single well-articulated, coherent project that enhances both aspects. It is well known that volunteer work and outreach activities have a transformational impact on training, contributing to a complex understanding of reality and to the formation of personal attitudes and values for social transformation. Firstly, they transform and give meaning to learning by developing a service action, and, secondly, they improve this service action by developing relevant learning. LeS teaches us to improve the environment, thus ensuring learning takes on civic and social meaning. Building the knowledge required to transform reality becomes an important motivational element, since quality service is only possible through high-level learning (Puig et al., 2010).

Phases

LeS passes through the following phases (Puig Rovira et al., 2007; Puig, Martín and Batlle, 2008; Pallarés and Chiva, 2017), which, in our case, combine with the Lesson Study phases:

Phases in carrying out small group work	
Learning and Service	Lesson Study
I. Preparation	
II. Implementation	
A. Plan	1. Search for a focus
	2. Design the environment and instruments to collect information
B. Put into practice	3. Develop the first experimental lesson
	4. Analyse and review the lesson
	5. Develop the second experimental lesson
C. Round up	6. Analyse and draft conclusions on the proposal
	7. Present in an extended context
III. Assessment	

1. **Preparation.** The first phase is preparation, which, as its name suggests, refers to the teachers preparing the project. It implies having an idea of service, a relationship with social entities (in our case schools), and planning how and where the project will be implemented. The aim is to encourage reciprocal

collaboration among students through a critical overview which strives to understand the complexity of educational phenomena. It is not a question of altruistic work, in which the person who offers a service also decides on the conditions. Nor is it a question of uncritically assuming the demands of the community without contributing the academic knowledge of the students who provide the service. In consequence, in this phase an agreement is reached with the schools which are to receive the service.

This is also the time to draw up different documents and design the sessions in which the service will be presented. All the information about the service to be developed is set out in a guide which is prepared collaboratively by the teaching team and made available to students.

2. **Implementation:** the next phase is the implementation phase, which is subdivided into three parts: plan, put into practice, and round up.

Plan. In this phase the project is planned with the class group. The first task will be to motivate the group, encouraging them to get involved in the project and make them reflect on what they are going to learn. Motivating the group starts on the very first day, when presenting the three subjects: students are told about the group work they will need to carry out, stressing the confidence we have in their ability to bring it to a successful conclusion, since we see them as prospective teachers are not simply students. Using group dynamics, they are also invited to reflect on what they need to learn in order to design, develop and assess the learning environments for the school and their relationship with the contents of the three subjects. The groups are then put together in order to organise and record the work, reflecting on it as the process evolves.

The first two phases of Lesson Study are then carried out: define the focus and design the experimental lesson:

The spaces are constructed throughout the duration of the subject by combining the Lesson Study methodology and a series of theory classes, debates, experiential workshops, practical classes in small groups, and moments of supervision and tutored review. The process was structured in 7 phases:

In the first one we searched for a focus for the lesson. We found a common problem that motivates the whole group, and defined the goals for the proposed environment. This initial phase will help us to identify the central theme of the lesson. It will be useful to share concerns, desires, and our deepest visions about what being a teacher means to us.

In the second phase, we designed the learning environment around the shared focus. We shared our experiences and knowledge on the subject. We searched for reference documents, discussed our ideas, debated the proposals, and came up with a new proposal set out in a detailed plan. What are we going to design in order to learn? Why do we think it will help pupils to develop more relevant learning? We practise cognitive empathy, putting ourselves in the place of students. We design a proposal that makes students' thoughts visible.

We also plan the lesson research. We come up with a design on how to collect information. We focus on how students learn. We develop strategies to detect what is observed, who is observed, how to record data, the tools required, etc.

In this phase, the contents of the subjects give meaning to the prospective teachers' group discussions and debates when designing the environment to be developed. For example, they write about the methodology for their environment at the same time as the session on this topic. Students then rehearse their environments. This is done at the university, allowing them to experiment in a secure, familiar context before implementing their ideas in the school. This gives them confidence in their ability to perform the task.

Halfway through the process, we have a pooling session for all the environments, where students can put forward any models, drawings, plans, resources, etc., they have come up with. These sessions help us to imagine the environments. With their ideas, all the groups contribute to the difficulties and dilemmas that colleagues present in the design of their environments.

Once all the designs are complete, the groups make summary posters and mock-ups that are shared with the whole class in a large group session. Finally, students receive exhaustive, detailed feedback from the teacher in charge of tutoring the group, although proposals for improvement can be openly put forward by the whole class. And so we come to the next phase of LeS: putting into practice.

Put into practice. In this phase the service is developed and the relevant information is recorded in order to subsequently reflect on it and disseminate it. It is important to avoid activism, always reflecting on what we are learning in the process in order to self-assess ourselves and correct ourselves if necessary. The Lesson Study structure helps us to achieve this, since it involves carrying out the service in two experimental lessons, separated by an intermediate point in which to review the information collected in the first experimental lesson and redesign the environment before proceeding with the second one.

Round up: The round-up phase is used to assess the results of the project, which are presented at a final shared act. The final two phases of LS –analysis and drafting of conclusions on the proposal, and dissemination in an extended context– are carried out in this stage.

The 1st Experimental Lesson is carried out in the third phase of the LS. Prior to this, all materials necessary to carry out and observe the lesson and collect evidence are prepared. Two roles are distributed: the role of observer, who collects information on everything that occurs, and the guide, who accompanies the students. In the fifth phase we describe the lesson through photos, videos, observation notes, etc., and then analyse it. We clarify the purpose, we try to ensure everyone is heard, we keep the debate focused on the lesson, and we explore the changes. In the 2nd Experimental Lesson, the cycle is repeated and the improvement changes are included, again distributing two roles: observer and guide.

To conclude, we assess the whole process and present the lesson in an extended context, i.e. the experience is shared with the whole class. A group poster is prepared in order to disseminate the findings of the lesson, focusing on the initial objectives, strengths and weaknesses, along with a reflection on the methodology and learning, and students are then encouraged to publish a group article recounting their experience.

The cycle is brought to a close by preparing a day for assessing and expressing what the Lesson Study meant for them through art.

3. **Assessment:** Finally, LeS envisages an assessment phase, which is when the teachers assess the whole project, the networking with the schools, the project experience and their own particular role.

Our teaching role

With regard to our teaching role during the process, reflection on actual practices or experiences, as expressed by Stenhouse (1975) and Elliot (1993, 2004), is a privileged strategy in teacher training, since it involves learners in practical, disciplined, informed theorisations on their own practice in professional contexts. However, as Feiman-Nemser (2001) states, these tutoring processes are delicate, since questioning one's own ideas and values –which define our own identity– may imply a highly emotional process in learner-teachers, precisely when their status as beginners makes it difficult for them to question the practice, ideas and values established in the school community and to lay bare their uncertainties and shortcomings. This process requires an accompanying figure –an expert mentor– to tutor the problematic processes of researching and questioning one's own practice and the development of alternative creative proposals.

A key aspect in tutoring to encourage reflection among students is feedback. The tutors provide personalised feedback on the design and the final LS document, which they do by making notes on the document itself and also through their comments in the face-to-face tutorials with each small group. Teachers try to ensure that this feedback is as effective as possible, often making notes directly on the texts to highlight the strong points of the tasks and the difficulties faced, indicating specific strategies which can be used to overcome them (Soto, Serván and Pérez, 2010; Sadler, 2010). We believe that it is important to formulate questions and answers which help students to reflect further, rather than simply giving answers and solutions (Boud and Falchicov, 2006).

This way of tutoring students ensures we work in close coordination, thanks to a joint class diary, a WhatsApp group, our presence together in the classroom, and the implementation of our own Lesson Study.

Assessment as learning

We have tried to bring about authentic, formative or educational self-assessment, understood as that which aims to ensure all agents involved have knowledge of their processes, results, contexts and learning needs (Black et al., 2004). In other words, assessment which makes students aware of their own learning process, in line with the development of learning to learn. This form of assessment represents a qualitative leap as it transforms assessment of learning into assessment for learning and as learning (Pérez Gómez et al., 2008).

We use a portfolio for this purpose. Since the portfolio can include a range of assessment strategies, we believe it is a privileged tool which helps develop the skills of prospective teachers, and also provides a faithful companion for both practising and prospective teachers. Assessment using portfolios allows us to

truly focus on students and help them to bring out their previous experience, to understand and analyse the practice they are developing, to apply and relate the theory we are working on in class, to establish a relationship between disciplines, and to demonstrate the importance of cooperative work. This reflection is fundamental in order for students to reconsider their ways of thinking, feeling and acting throughout their school experience, and to enable the reconstruction of their practical teaching knowledge. In other words, to have the opportunity to dialogue with personal and contrasted knowledge both from and towards experience, demonstrating the most significant inputs, achievements, strengths and weaknesses. Assessment becomes a strategic tool for the construction and reconstruction of knowledge (Soto Gómez, Serván Núñez and Caparrós Vida, 2016a).

We therefore use the digital portfolio, understood as a collection of evidence: documents, artefacts, links, presentations made by the student and a final reflective account of his or her own learning process.

4. Conclusions

Living and building an educational experience requires permanent, cyclical transition from knowledge to practical thinking, all of which is made possible thanks to the combination of Learning and Service, which offers a context of meaning, and Lesson Study, as the context of reflection and cooperative learning. The phases dedicated to searching for a focal point and a design gives students the opportunity to *theorise on practice* by reading, finding documentation and researching ideas they could use to create within a living experience context. This process, which Schön (1998) called *reflection-on-action*, involves encouraging and stimulating the prospective teachers to identify, analyse and reformulate not only the espoused theories which adorn practice, but also the theories-in-use which govern it.

Furthermore, by developing and implementing the learning environments they have designed, the prospective teachers can *experiment with the theory*, leading to the construction of those teaching skills which are automatically activated when we face new actions and new contexts (Korthagen, Loughran and Russell, 2006).

In developing this experience over the last few years, we have been able to collect evidence on how students overcame different cognitive processes during the process. Students can directly experience teaching autonomy in order to design learning contexts related to childhood interests. We see how the Lesson Study process, with its phases and cooperative work, allows them to combine creativity and singular talents in a common project that acquires meaning and relevance thanks to SeL. This provides a framework that facilitates the construction of solid structures related to the meaning of the educational process, and which can be used to recalibrate what it means to be an Infant School teacher: a creative, relevant, complex experience that requires them to recreate the knowledge and experience which prospective infant school teachers bring to the university training process.

The voice of our students:

F.: *I really like the experience, I think it's something different that we should all experience because you learn a lot from it.*

M.: *Coming from a traditional school, with its desks, its chairs, its set playtime and its immutable learning process, to being a free school where children are the protagonists of their own learning, where they learn to discover an environment which they can use to develop their abilities at their own rate, has meant a change of mentality.*

Another student: *As I was used to giving classes methodically in the classroom, always based around the teacher, pupils and the syllabus, it has allowed me to see other perspectives; for example, it was good for me to go out and sit together in the agora to discuss several topics. I also liked the breakfasts, as each group was in charge of bringing something to eat, and this brought us together as a group and made us feel like a community; and not forgetting when we danced, when we greeted each other, when we hugged without any reason... It was like you came together with another person you had maybe never spoken to even though you were in the same class.*

C.: *It removes the pressure that comes from having everything so well ordered on the walls... There is no doubt that going outside has been very good for us. It has been a useful tool for me to, as a future teacher, know that I have to first set a series of clear objectives, all of which must be well-founded, otherwise how could you defend them? With these objectives in mind, you can develop the activity –the learning environments– and then put it into practice with the children; the first one was not what we were expecting, but it was undoubtedly a great experience... These mistakes are what helped us with the second experimental lesson, which we are more than happy about, because it really exceeded our expectations. The process allows you to think, then create, then realise what worked and what didn't... you see that not everything is black and white; you realise there have been improvements and what they mean. As teachers we must be continually thinking, justifying our actions and striving to improve our practice; it is undoubtedly a great tool, one which we will continue to use.*